



July 3, 2019

**H&S Bosma Dairy Lagoon Nos. 8, 9, 19, and 20**

Administrative Order on Consent Docket No. SDWA-10-2013-0080



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## H&S Bosma Dairy Lagoon Nos. 8, 9, 19, and 20 Lagoon Abandonment Completion Report

Prepared for Liberty/H&S Bosma Dairies

July 3, 2019

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Administrative Order on Consent Docket No. SDWA-10-2013-0080

# H&S Bosma Dairy Lagoon Nos. 8, 9, 19, and 20 Lagoon Abandonment Completion Report

**Prepared for**

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Project Number: 190995-01.01

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## ABBREVIATIONS

|                    |   |
|--------------------|---|
| Abandonment Plan   | <i>H&amp;S Bosma Dairy Lagoon Nos. 8, 9, 19, and 20 Lagoon Abandonment Plan</i> |
| Dairy              | H&S Bosma Dairy   |
| H:V                | horizontal to vertical (ratio)  |
| lagoons            | Lagoon Nos. 8, 9, 19, and 20  |
| mg/kg              | milligrams per kilogram   |
| ND                 | non-detect  |
| NH <sub>4</sub> -N | ammonium (as nitrogen)  |
| NO <sub>3</sub> -N | nitrate (as nitrogen)   |
| Report             | Lagoon Abandonment Completion Report  |
| WA NRCS            | Washington State Natural Resources Conservation Service                         |



# 1 Introduction

This Lagoon Abandonment Completion Report (Report) describes the abandonment of four former manure storage lagoons known as Lagoon Nos. 8, 9, 19, and 20. This Report was prepared by Anchor QEA, LLC, on behalf of H&S Bosma Dairy (the Dairy) in compliance with U.S. Environmental Protection Agency Region 10 Administrative Order on Consent SDWA-10-2013-0080.

The plan for lagoon abandonments was defined in the *H&S Bosma Dairy Lagoon Nos. 8, 9, 19, and 20 Lagoon Abandonment Plan* (Abandonment Plan; Anchor QEA 2018a). The Abandonment Plan included the removal of manure and soils containing elevated nitrate or ammonia levels, followed by compliance testing. That work was initiated in late 2018 and was completed in June 2019.

The lagoon abandonments exceed the requirements of Washington State Natural Resources Conservation Service (WA NRCS) *Conservation Practice Standard 360 – Waste Facility Closure* (WA NRCS 2013a) and the nutrient management requirements of WA NRCS *Conservation Practice Standard No. 590 – Nutrient Management* (WA NRCS 2013b). The lagoon abandonments also exceed the basin abandonment expectations as defined in the current version of the Concentrated Animal Feeding Operation permit as issued by the Washington State Department of Ecology (Ecology 2017).

The Dairy is located at 823 N Liberty Road in Granger, Washington. The abandoned lagoons are located as shown in Figure 1. Estimated dimensions and capacities of the lagoons prior to abandonment are also provided in Table 1. The lagoons are located in a low-lying area constrained by an access road to the east, a composting area to the west, Lagoon No. 7 to the south, and an orchard to the north.

**Table 1**  
**Approximate Lagoon Dimensions**

| Liberty/H&S Bosma Dairies |               |              |              |                            |                      |                                 |
|---------------------------|---------------|--------------|--------------|----------------------------|----------------------|---------------------------------|
| Location                  | Length (feet) | Width (feet) | Depth (feet) | Capacity (million gallons) | Capacity (acre-feet) | Approximate Interior Side Slope |
| Lagoon No. 8              | 145           | 110          | 9            | 0.6                        | 1.8                  | 1.5H:1V to 4H:1V                |
| Lagoon No. 9              | 140           | 110          | 5            | 0.3                        | 0.9                  | 1H:1V to 6H:1V                  |
| Lagoon No. 19             | 270           | 110          | 4.2          | 0.4                        | 1.2                  | 1.5H:1V to 7H:1V                |
| Lagoon No. 20             | 190           | 120          | 3.0          | 0.3                        | 0.9                  | 2H:1V to 11H:1V                 |

## 2 Abandonment Summary

This section describes the lagoon abandonment activities, which included the following:

- Topographic survey
- Liquids, organic solids, and vegetation removal
- Soil confirmation testing
- Final lagoon abandonment
- Soil and nutrient management
- Completion report submittal

The construction activities (liquid and solids removal, final lagoon abandonment, and soil/nutrient management) were performed utilizing Dairy personnel and equipment. Soil confirmation testing and completion report submittal was performed by Anchor QEA.

### 2.1 Topographic Survey

Topographic surveys of Lagoon Nos. 8 and 9 were completed on September 3, 2016, and topographic surveys of Lagoon Nos. 19 and 20 were completed on March 19, 2018. Both surveys were conducted by a licensed Washington State surveyor. In accordance with WA NRCS *Conservation Practice Standard 360 – Waste Facility Closure* (WA NRCS 2013a), the survey extends a minimum of 50 feet beyond the edge or the toe of the lagoon embankments and contains the locations of existing utilities (including inlets and outlets) within the abandonment footprint.

### 2.2 Liquids and Organic Solids Removal

Prior to soil excavation, liquids, organic solids, and vegetation (if present) were removed. This work began in November 2018 for Lagoon Nos. 19 and 20 and in spring 2019 for Lagoon Nos. 8 and 9. Liquids contained within the lagoons were transferred to an in-service lagoon. After liquid removal, organic solids and any vegetation were removed and placed in the composting area.

### 2.3 Initial Lagoon Bottom Testing (Lagoon Nos. 19 and 20)

Following removal of liquids, organic solids, and vegetation, an initial round of soil testing was conducted within the bottom of Lagoon Nos. 19 and 20 to evaluate the need for further soil removal. However, observed soils were mottled brown in color and contained extensive organic matter. These initial testing results (contained in Appendix A) demonstrated the presence of both nitrate and ammonia, indicating the presence of residual manure. In response, additional soil removal was then initiated as described in Section 2.4.

## 2.4 Soil Excavation and Compliance Sampling (Lagoon Nos. 8, 9, 19, and 20)

Following the initial testing described in Section 2.3, exploratory test pits were conducted in each lagoon to observe the soil profile. Soil excavation depths were set an average of 3 to 4 feet below ground surface as necessary to remove soil containing mottled brown coloring or visible organic matter.

Following soil removal, compliance sampling was performed consistent with the Abandonment Plan (Anchor QEA 2018a) to confirm that soils containing elevated ammonia or nitrate had been removed. Some additional soil removal was conducted as necessary to achieve the target soil nitrogen concentration.

Soil compliance sampling from lagoon interiors was performed as follows:

1. Samples were collected from each lagoon bottom and sidewalls using hand tools (e.g., spades, trowels). An excavator was used to assist the soil sample collection.
2. The initial soil samples were collected from a depth interval of 0 to 12 inches below the exposed ground surface.
3. Additional samples were also collected at depth intervals of 12 to 24 inches and 24 to 36 inches below ground surface. These samples were archived at the laboratory pending results of testing in the 0 to 12-inch depth interval samples.

Laboratory analyses of the soil samples were performed by SoilTest Farm Consultants, Inc., a Washington State-certified analytical laboratory and a North American Proficiency Testing-accredited laboratory located at 2925 Driggs Drive, Moses Lake, Washington. Sample management, packing, shipment, analytical testing, quality assurance/quality control, and data validation protocols were consistent with those defined in the *Dairy Facility Application Field Management Plan* (Anchor QEA 2018b). Soil samples were tested for the following analytes and methods:

- Ammonium (as nitrogen) by Western Coordinating Committee S-3.50
- Nitrate (as nitrogen) by Western Coordinating Committee S-3.10

Excavation was deemed complete when the 0 to 12-inch depth interval samples in bottom or sidewall areas contained inorganic nitrogen levels (measured as the sum of ammonia-nitrogen and nitrate-nitrogen) less than 45 milligrams per kilogram (mg/kg).

In those cases when the target levels were not met in the 0 to 12-inch depth interval samples, deeper archived soil samples were analyzed. In one case, an additional deeper test pit was used to collect and analyze a deeper sample (from a depth interval of 36 to 48 inches). Results were then used to guide the removal of overlying soils.

Detailed descriptions of soil removal and compliance monitoring results are provided in the following subsections for each lagoon. Compliance monitoring data are contained in Appendix A. Photographs of the completed lagoon abandonments are provided in Appendix B.

### 2.4.1 Lagoon No. 8

Soil samples were collected from the bottom and lower portion of each sidewall at Lagoon No. 8 on June 11, 2019, following the removal of between 3 and 4 feet of overlying soils. Figure 2a presents the approximate soil sampling locations. Results are summarized in Table 2.

The lagoon bottom and three of the four sidewalls complied with the target nitrogen levels. The remaining sidewall exceeded the criteria by less than 1%. Archived deeper samples (from 12 to 24 inches and 24 to 36 inches) both complied with the criteria. In response, 1 additional foot of soil was removed.

All sample results were below the target levels threshold. No additional excavation was required. The average nitrogen concentration in the final lagoon surface was 12 mg/kg.

**Table 2**  
**Results of Lagoon No. 8 Soil Confirmation Testing**

| Sample ID                      | Sample Date | Depth Below Exposed Soil Surface (inches) | NH <sub>4</sub> -N (mg/kg) | NO <sub>3</sub> -N (mg/kg) | Total (mg/kg) | Status      | Follow-Up Actions Taken               |
|--------------------------------|-------------|---|----------------------------|----------------------------|---------------|-------------|---------------------------------------|
| <b>Lagoon Bottom</b>           |             |   |                            |                            |               |             |                                       |
| B01                            | 6/11/2019   | 0 to 12                                   | 1.5                        | 0.5                        | <b>2.0</b>    | <b>Pass</b> | --                                    |
| <b>Lagoon Sidewalls</b>        |             |   |                            |                            |               |             |                                       |
| S01                            | 6/11/2019   | 0 to 12                                   | 1.2                        | 0.7                        | <b>1.9</b>    | <b>Pass</b> | --                                    |
| S02                            | 6/11/2019   | 0 to 12                                   | 1.5                        | 17.1                       | <b>18.6</b>   | <b>Pass</b> | --                                    |
| S03                            | 6/11/2019   | 0 to 12                                   | ND                         | 45.3                       | 45.3          | Fail        | Additional 1 foot of material removed |
| S03                            | 6/11/2019   | 12 to 24                                  | ND                         | 37.2                       | <b>37.2</b>   | <b>Pass</b> | --                                    |
| S03                            | 6/11/2019   | 24 to 36                                  | ND                         | 33.4                       | 33.4          | Pass        | --                                    |
| S04                            | 6/11/2019   | 0 to 12                                   | ND                         | 1.8                        | <b>1.8</b>    | <b>Pass</b> | --                                    |
| <b>Final Surface (Average)</b> |             |   |                            |                            | <b>12</b>     | --          |                                       |

Note:

Samples representing the final surface are indicated in **bold**.

### 2.4.2 Lagoon No. 9

Soil samples were collected from the bottom and lower portion of each sidewall at Lagoon No. 9 on May 30, 2019, following the removal of 3 to 4 feet of soil. Figure 2a shows the approximate sampling locations. Testing results are shown in Table 3.

All sample results were below the target levels threshold. No additional excavation was required. The average nitrogen concentration in the final lagoon surface was 13 mg/kg.

**Table 3**  
**Results of Lagoon No. 9 Soil Confirmation Testing**

| Sample ID                      | Sample Date | Depth Below Exposed Soil Surface (inches) | NH <sub>4</sub> -N (mg/kg) | NO <sub>3</sub> -N (mg/kg) | Total (mg/kg) | Status      | Follow-Up Actions Taken |
|--------------------------------|-------------|---|----------------------------|----------------------------|---------------|-------------|-------------------------|
| <b>Lagoon Bottom</b>           |             |   |                            |                            |               |             |                         |
| B01                            | 5/30/2019   | 0 to 12                                   | <1.0                       | 29.2                       | <b>29.2</b>   | <b>Pass</b> | --                      |
| <b>Lagoon Sidewalls</b>        |             |   |                            |                            |               |             |                         |
| S01                            | 5/30/2019   | 0 to 12                                   | <1.0                       | 5.6                        | <b>5.6</b>    | <b>Pass</b> | --                      |
| S02                            | 5/30/2019   | 0 to 12                                   | <1.0                       | 29.5                       | <b>29.5</b>   | <b>Pass</b> | --                      |
| S03                            | 5/30/2019   | 0 to 12                                   | <1.0                       | 1.1                        | <b>1.1</b>    | <b>Pass</b> | --                      |
| S04                            | 5/30/2019   | 0 to 12                                   | <1.0                       | 0.6                        | <b>0.6</b>    | <b>Pass</b> | --                      |
| <b>Final Surface (Average)</b> |             |   |                            |                            | <b>13</b>     | --          |                         |

Note:

Samples representing the final surface are indicated in **bold**.

### 2.4.3 Lagoon No. 19

Soil samples were collected from the bottom and lower portion of each sidewall at Lagoon No. 19 on May 7, 2019, after the removal of 3 to 4 feet of soil. Figure 2b shows the approximate sampling locations. Results of testing are shown in Table 4.

The lagoon bottom and two of the four sidewalls complied with the target nitrogen levels. Testing of archive samples and one additional field sample (collected May 17, 2019) was used to define the scope of additional soil removals for the remaining two sidewalls. In response, between 1 and 2 feet of additional soil were removed from the eastern sidewall, and 4 to 6 feet of soil were removed from the western sidewall.

All final sample results were below the target levels threshold. The average nitrogen concentration in the final lagoon surface was 16 mg/kg.

**Table 4**  
**Results of Lagoon No. 19 Soil Confirmation Testing**

| Sample ID                      | Sample Date | Depth Below Exposed Soil Surface (inches) | NH <sub>4</sub> -N (mg/kg) | NO <sub>3</sub> -N (mg/kg) | Total (mg/kg) | Status      | Follow-Up Actions Taken               |
|--------------------------------|-------------|---|----------------------------|----------------------------|---------------|-------------|---------------------------------------|
| <b>Lagoon Bottom</b>           |             |   |                            |                            |               |             |                                       |
| B01                            | 5/7/2019    | 0 to 12                                   | 2.6                        | 1.3                        | <b>3.9</b>    | <b>Pass</b> | --                                    |
| <b>Lagoon Sidewalls</b>        |             |   |                            |                            |               |             |                                       |
| S01                            | 5/7/2019    | 0 to 12                                   | 1.1                        | 131.3                      | 132.4         | Fail        | Additional 1 foot of material removed |
| S01                            | 5/7/2019    | 12 to 24                                  | 1.9                        | 15.0                       | <b>16.9</b>   | <b>Pass</b> | --                                    |
| S01                            | 5/7/2019    | 24 to 36                                  | 1.8                        | 41.7                       | 43.5          | Pass        | --                                    |
| S02                            | 5/7/2019    | 0 to 12                                   | 1.1                        | 39.6                       | <b>40.7</b>   | <b>Pass</b> | --                                    |
| S03                            | 5/7/2019    | 0 to 12                                   | 1.0                        | 56.9                       | 57.9          | Fail        | Additional 3 feet of material removed |
| S03                            | 5/7/2019    | 12 to 24                                  | 1.5                        | 70.6                       | 72.1          | Fail        |                                       |
| S03                            | 5/7/2019    | 24 to 36                                  | 1.5                        | 91.4                       | 92.9          | Fail        |                                       |
| S03                            | 5/17/2019   | 36 to 48                                  | <1.0                       | 4.7                        | <b>4.7</b>    | <b>Pass</b> | --                                    |
| S04                            | 5/7/2019    | 0 to 12                                   | 0.8                        | 14.1                       | <b>14.9</b>   | <b>Pass</b> | --                                    |
| <b>Final Surface (Average)</b> |             |   |                            |                            | <b>16</b>     | --          |                                       |

Note:

Samples representing the final surface are indicated in **bold**.

#### 2.4.4 Lagoon No. 20

Soil samples were collected from the bottom and lower portion of each sidewall at Lagoon No. 20 on May 17, 2019, following the removal of 3 to 4 feet of soil. Figure 2c presents the approximate sampling locations. Testing results are shown in Table 5.

All sample results were below the target levels threshold. No additional excavation was required. The average nitrogen concentration in the final lagoon surface was 5.1 mg/kg.

**Table 5**  
**Results of Lagoon No. 20 Soil Confirmation Testing**

| Sample ID               | Sample Date | Depth Below Exposed Soil Surface (inches) | NH <sub>4</sub> -N (mg/kg) | NO <sub>3</sub> -N (mg/kg) | Total (mg/kg) | Status      | Follow-up Actions Taken |
|-------------------------|-------------|---|----------------------------|----------------------------|---------------|-------------|-------------------------|
| <b>Lagoon Bottom</b>    |             |   |                            |                            |               |             |                         |
| B01                     | 5/17/2019   | 0 to 12                                   | <1.0                       | 2.3                        | <b>2.3</b>    | <b>Pass</b> | --                      |
| <b>Lagoon Sidewalls</b> |             |   |                            |                            |               |             |                         |
| S01                     | 5/17/2019   | 0 to 12                                   | <1.0                       | 4.4                        | <b>4.4</b>    | <b>Pass</b> | --                      |

| Sample ID                      | Sample Date | Depth Below Exposed Soil Surface (inches) | NH <sub>4</sub> -N (mg/kg) | NO <sub>3</sub> -N (mg/kg) | Total (mg/kg) | Status      | Follow-up Actions Taken |
|--------------------------------|-------------|---|----------------------------|----------------------------|---------------|-------------|-------------------------|
| S02                            | 5/17/2019   | 0 to 12                                   | <1.0                       | 10.1                       | <b>10.1</b>   | <b>Pass</b> | --                      |
| S03                            | 5/17/2019   | 36 to 48                                  | 1.2                        | 1.9                        | <b>3.1</b>    | <b>Pass</b> | --                      |
| S04                            | 5/17/2019   | 0 to 12                                   | <1.0                       | 6.8                        | <b>6.8</b>    | <b>Pass</b> | --                      |
| <b>Final Surface (Average)</b> |             |   |                            |                            | <b>5.1</b>    |             | --                      |

Note:

Samples representing the final surface are indicated in **bold**.

## 2.5 Site Restoration and Future Use

Following completion of the lagoon abandonments described in this Report, the area surrounding former Lagoon Nos. 8, 9, and 19 will be regraded and returned to agricultural uses (i.e., planting of crops).

Stormwater previously collected using these lagoons will be captured and conveyed to Lagoon No. 7 by a new drainage system being installed by the Dairy along the edge of its compost area.

Lagoon No. 20 will be maintained in its current configuration and will be put into use as a clean water storage pond (a "frost pond") in support of the neighboring orchard.

### 3 Summary

All four of the Dairy lagoon abandonments were successfully completed. The average nitrogen concentration (sum of ammonia- and nitrate-nitrogen) in the final lagoon surface ranged between 5.1 and 16 mg/kg.



## 4 References

Anchor QEA (Anchor QEA, LLC), 2018a. *H&S Bosma Dairy Lagoon Nos. 8, 9, 19, and 20 Lagoon Abandonment Plan*. Prepared for Liberty/H&S Bosma Dairies. August 29, 2018.

Anchor QEA, 2018b. *Dairy Facility Application Field Management Plan*. Prepared for Cow Palace, LLC; George DeRuyter & Son Dairy, LLC/D&A Dairy, LLC/George & Margaret, LLC; and Liberty Dairy, LLC/H&S Bosma Dairy. February 2018.

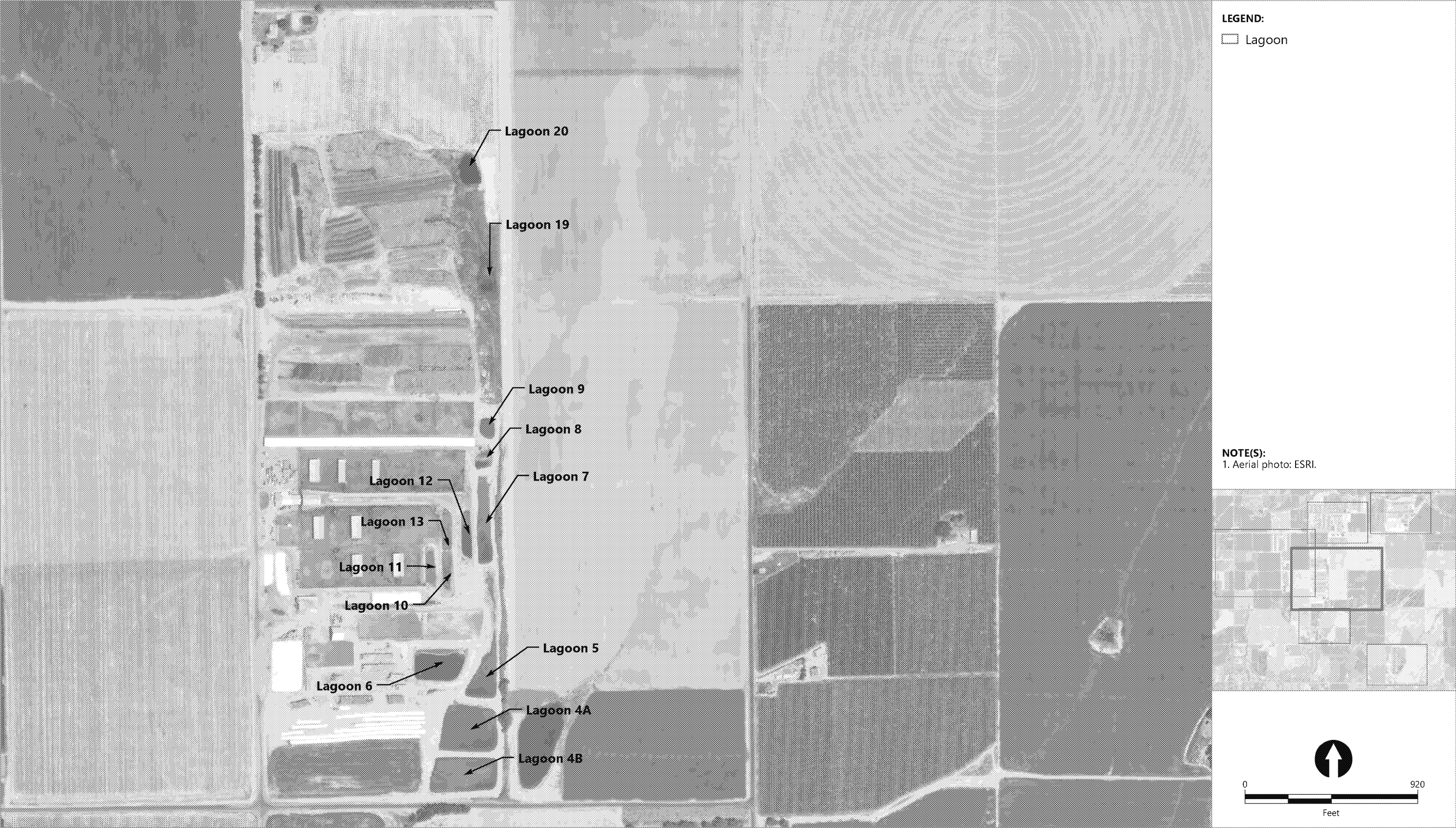
Ecology (Washington State Department of Ecology), 2017. Concentrated Animal Feeding Operation. National Pollutant Discharge Elimination System and State Waste Discharge General Permit. Issued: January 18, 2017.

WA NRCS (Washington State Natural Resources Conservation Service), 2013a. *Conservation Practice Standard No. 360 – Waste Facility Closure*. January 2013.

WA NRCS, 2013b. *Conservation Practice Standard No. 590 – Nutrient Management*. December 2013.

## Figures

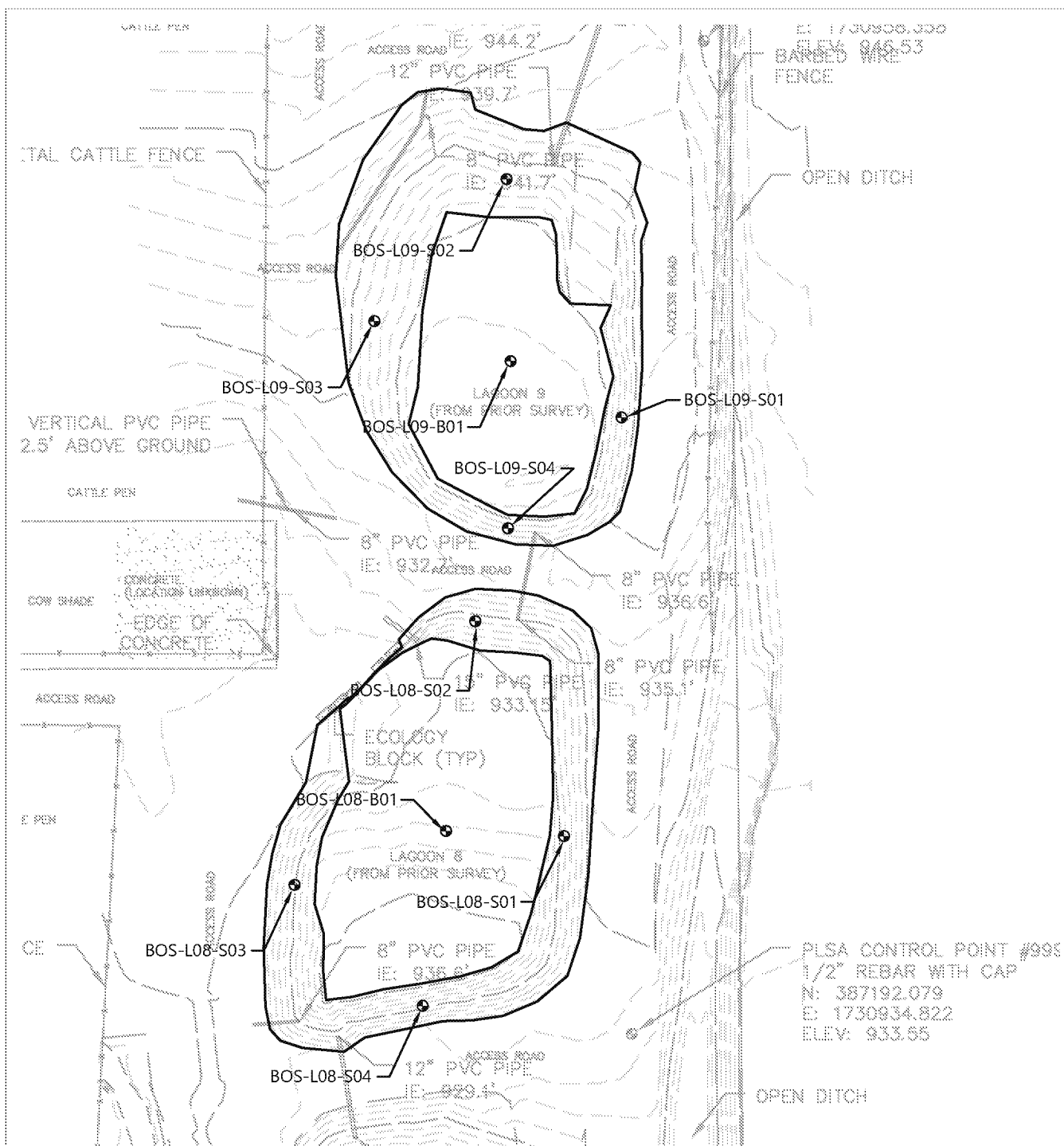
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**Figure 1**  
**H&S Bosma Dairy Lagoon Map**  
 Lagoon Abandonment Completion Report  
 H&S Bosma Dairy Lagoon Nos. 8, 9, 19, and 20

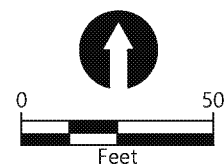


**SOURCE:** Drawing prepared from survey performed by  
PLSA dated 3/27/2018.  
**HORIZONTAL DATUM:** Washington State Plane South,  
NAD83, U.S. Feet.  
**VERTICAL DATUM:** NAVD83.

**LEGEND:**



Sample Location



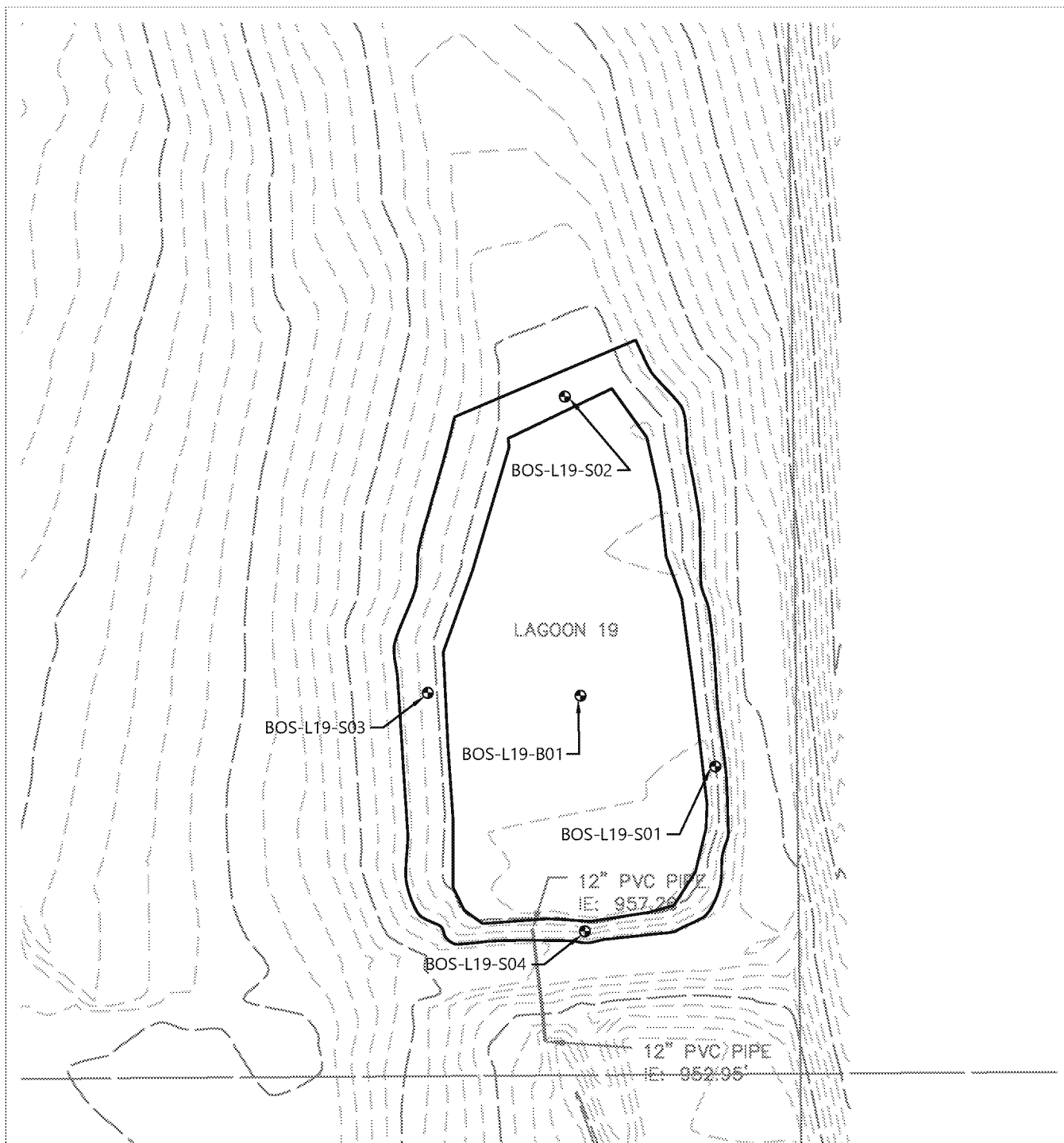
Publish Date: 2019/06/27 1:53 PM | User: jsextton

Filepath: K:\Projects\0996-Perkins Core\Yakima Dairies Project\Lagoons - 2018\Lagoon 8&9 Abandonment\0996-R-001-YVD 2018-Lagoon 8&9 Abandonment\6.27.19.dwg 2a



**Figure 2a**  
**Lagoon Nos. 8 and 9 Sampling Locations**

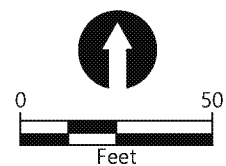
Lagoon Abandonment Completion Report  
H&S Bosma Dairy Lagoon Nos. 8, 9, 19, and 20



**SOURCE:** Drawing prepared from survey performed by  
PLSA dated 3/27/2018.  
**HORIZONTAL DATUM:** Washington State Plane South,  
NAD83, U.S. Feet.  
**VERTICAL DATUM:** NAVD83.

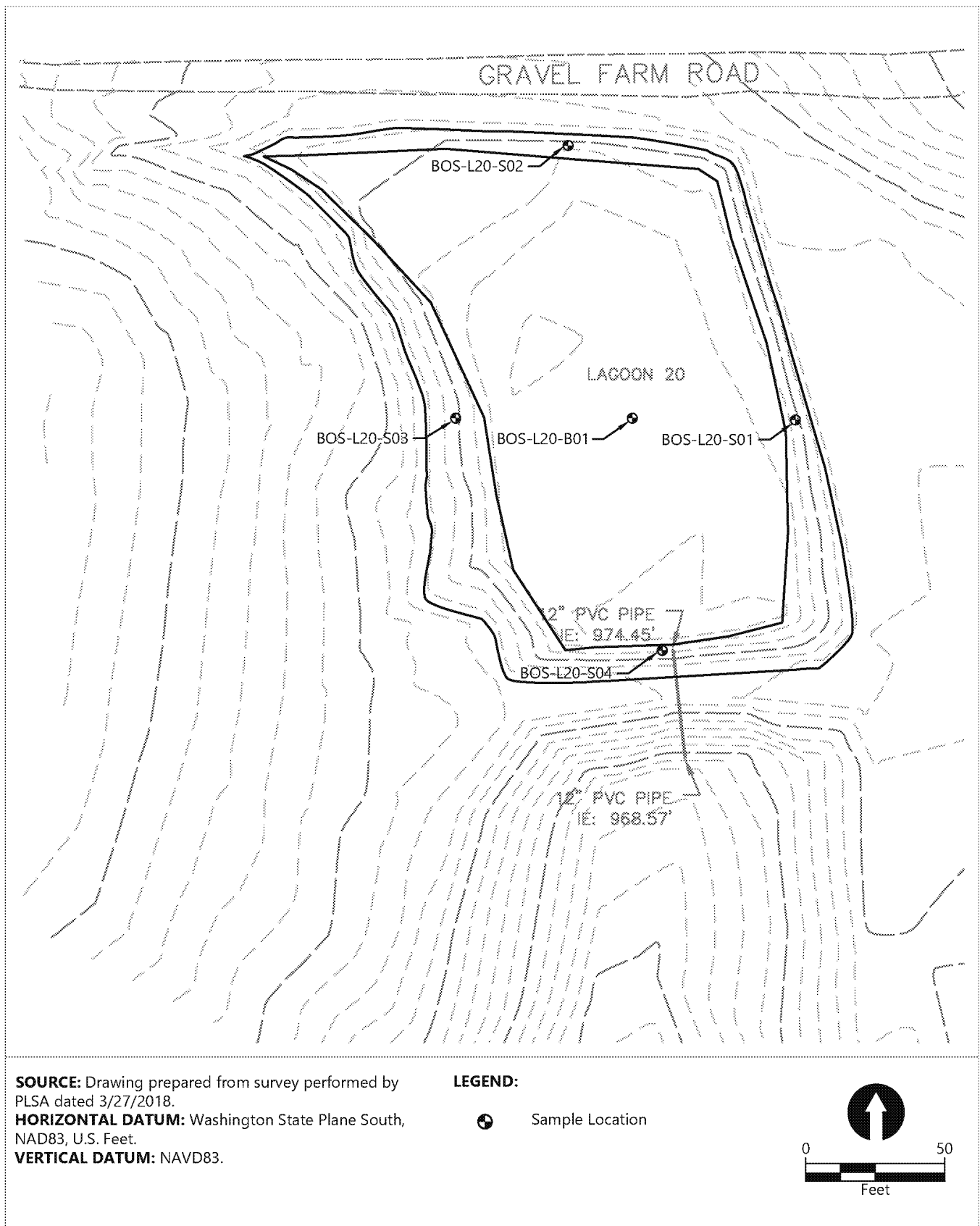
**LEGEND:**

● Sample Location



**Figure 2b**  
**Lagoon No. 19 Sample Locations**

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**Figure 2c**  
**Lagoon No. 20 Sample Locations**  
Lagoon Abandonment Completion Report  
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# Appendix A

## Soil Sampling Laboratory Reports

---

# Data Completeness Checklist – EPA Stage 1

July 3, 2019

Project: Yakima Valley Dairies/SDWA-10-2013-0080 H&S Bosma Dairy Lagoon  
Abandonment Soils  
Project Number: 190996-01.01  
Laboratory: SoilTest Farm Consultants, Inc.

This report summarizes the review of analytical results for 40 soil samples. The samples were collected by Anchor QEA, LLC, and sent to SoilTest Farm Consultants, Inc. (SoilTest), in Moses Lake, Washington, for analysis. The samples were analyzed for the following parameters:

- Ammonium (NH<sub>4</sub>) by Western Coordinating Committee (WCC) Method S-3.50
- Nitrate (NO<sub>3</sub>) by WCC Method S-3.10

SoilTest sample IDs, matrices, and analyses are presented in Table 1.

**Table 1**  
**Sample IDs, Matrices, and Analyses**

| Sample ID              | Laboratory ID | Matrix | Analysis                          |
|------------------------|---------------|--------|-----------------------------------|
| BOS-L20-S01-0-20181206 | S18-26727     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L20-B01-0-20181206 | S18-26731     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L20-S02-0-20181206 | S18-26735     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L20-B03-0-20181206 | S18-26739     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L20-BL-20181206    | S18-26740     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L09-S01-0-20181206 | S18-26741     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L09-B01-0-20181206 | S18-26745     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L09-S02-0-20181206 | S18-26749     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L09-S03-0-20181206 | S18-26752     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L09-S04-0-20181206 | S18-26755     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L19-B01-0-20181206 | S18-26756     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L19-S01-0-20181206 | S18-26758     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L19-S02-0-20181206 | S18-26760     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L19-S01-1-20190507 | S19-06855     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L19-S01-2-20190507 | S19-07376     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L19-S01-3-20190507 | S19-07377     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L19-S02-1-20190507 | S19-06856     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L19-S03-1-20190507 | S19-06857     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L19-S03-2-20190507 | S19-07378     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |
| BOS-L19-S03-3-20190507 | S19-07379     | Soil   | NH <sub>4</sub> , NO <sub>3</sub> |



| Sample ID              | Laboratory ID | Matrix | Analysis |
|------------------------|---------------|--------|----------|
| BOS-L19-S03-4-20190517 | S19-07521     | Soil   | NH4, NO3 |
| BOS-L19-S04-1-20190507 | S19-06858     | Soil   | NH4, NO3 |
| BOS-L19-B01-1-20190507 | S19-06854     | Soil   | NH4, NO3 |
| BOS-L20-S01-1-20190517 | S19-07517     | Soil   | NH4, NO3 |
| BOS-L20-S02-1-20190517 | S19-07518     | Soil   | NH4, NO3 |
| BOS-L20-S03-1-20190517 | S19-07519     | Soil   | NH4, NO3 |
| BOS-L20-S04-1-20190517 | S19-07520     | Soil   | NH4, NO3 |
| BOS-L20-B01-1-20190517 | S19-07516     | Soil   | NH4, NO3 |
| BOS-L09-S01-1-20190530 | S19-08355     | Soil   | NH4, NO3 |
| BOS-L09-S02-1-20190530 | S19-08356     | Soil   | NH4, NO3 |
| BOS-L09-S03-1-20190530 | S19-08357     | Soil   | NH4, NO3 |
| BOS-L09-S04-1-20190530 | S19-08358     | Soil   | NH4, NO3 |
| BOS-L09-B01-1-20190530 | S19-08354     | Soil   | NH4, NO3 |
| BOS-L08-B01-1-20190611 | S19-09160     | Soil   | NH4, NO3 |
| BOS-L08-S01-1-20190611 | S19-09161     | Soil   | NH4, NO3 |
| BOS-L08-S02-1-20190611 | S19-09162     | Soil   | NH4, NO3 |
| BOS-L08-S03-1-20190611 | S19-09163     | Soil   | NH4, NO3 |
| BOS-L08-S04-1-20190611 | S19-09164     | Soil   | NH4, NO3 |
| BOS-L08-S03-2-20190611 | S19-09849     | Soil   | NH4, NO3 |
| BOS-L08-S03-3-20190611 | S19-09850     | Soil   | NH4, NO3 |

## Data Validation and Qualifications

Laboratory results were reviewed using the laboratory control limits and the following guidelines:

- *Lagoon Pre-Design Data Collection Quality Assurance Project Plan Liberty and H&S Bosma Dairies* (Anchor QEA 2017)
- *Soil, Plant, and Water Reference Methods for the Western Region* (Third Edition) (Gavlak, Horneck, and Miller 2005)
- *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (EPA 2009)

Unless noted in this report, laboratory results for the prior listed samples were within quality control criteria.

## Data Completeness Checklist

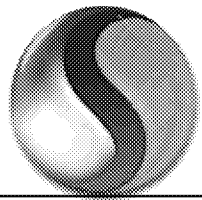
| Yes                                 | No                                  | N/A                                 | Checklist Item  |
|-------------------------------------|-------------------------------------|-------------------------------------|---|
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Chain of custody forms (COCs) filled out correctly? <ul style="list-style-type: none"> <li>The original COC for samples collected December 6, 2018, was missing test requests. The COC was revised on December 7, 2018, by the project Quality Assurance Manager.</li> <li>COCs dated May 7 and May 17, 2019, were hand-delivered to the laboratory, so the date/time released is the same as the data/time received.</li> <li>The COC dated May 30, 2019, has the incorrect "released" date and time. The COC was signed as released on May 30; however, the sampler missed the FedEx cutoff time for shipping. Samples were maintained on ice overnight, then frozen on May 31, 2019, as indicated on the COC. Samples were shipped the following Monday (June 3, 2019) for Tuesday delivery (June 4, 2019).</li> </ul> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Sample IDs, collection dates and times, and date and time of lab receipt documented?  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Sample receipt conditions documented?   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Requested analyses completed?   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Target analyte list and correct units reported?   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Target reporting limits used?   |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Lab qualifiers defined?   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Requested methods used for sample handling, preparation, cleanup, and analyses?   |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Associated analyses dates present? <ul style="list-style-type: none"> <li>Analyses dates are not presented on the 2019 Soil Test Results forms; however, all samples were appropriately preserved. Samples collected on May 30, 2019, were frozen prior to being shipped to the laboratory. The laboratory dried the soil samples upon receipt, consistent with the analytical methods and the laboratory's standard operating, so all analyses were performed within the hold time.</li> </ul>   |

## References

Anchor QEA (Anchor QEA, LLC), 2017. *Lagoon Pre-Design Data Collection Quality Assurance Project Plan Liberty and H&S Bosma Dairies*. Prepared for Liberty and H&S Bosma Dairies. Yakima Valley Dairies. February 2017.

Gavlak, R.E., D.A. Horneck, and R.O. Miller, 2005. *Soil, Plant, and Water Reference Methods for the Western Region*. Third Edition. Western Regional Extension Publication WREP-125, Oregon State University. Available from: <http://www.naptprogram.org/files/napt/western-states-method-manual-2005.pdf>. 2005.

EPA (U.S. Environmental Protection Agency), 2009. *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use*. U.S. Environmental Protection Agency Office of Solid Waste and Emergency Response. EPA 540-R-08-005. January 2009.



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**ANCHOR QEA**

720 OLIVE WAY STE 1900

SEATTLE, WA 98101

Laboratory #: S18-26727

Date Received: 12/6/2018

Grower:

Sampled By:

Field: BOS-L20-S01-0-20181206

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 24.4

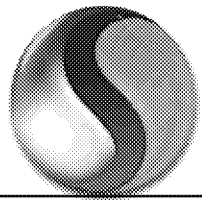
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 1.8                |                    |                    |
| <b>Totals</b>   | <b>1.8</b>         |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S18-26727 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$17.00**



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**ANCHOR QEA**

720 OLIVE WAY STE 1900

SEATTLE, WA 98101

Laboratory #: S18-26731

Date Received: 12/6/2018

Grower:

Sampled By:

Field: BOS-L20-B01-0-20181206

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 96.4

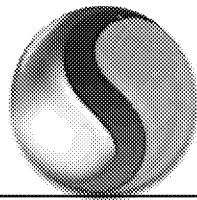
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 6.0                |                    |                    |
| <b>Totals</b>   | <b>6.0</b>         |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

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**ANCHOR QEA**

720 OLIVE WAY STE 1900

SEATTLE, WA 98101

Laboratory #: S18-26735

Date Received: 12/6/2018

Grower:

Sampled By:

Field: BOS-L20-S02-0-20181206

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 18.1

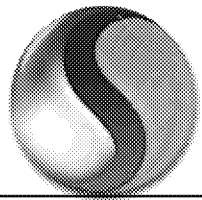
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 124.9              |                    |                    |
| <b>Totals</b>   | <b>124.9</b>       |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

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**ANCHOR QEA**

720 OLIVE WAY STE 1900

SEATTLE, WA 98101

Laboratory #: S18-26739

Date Received: 12/6/2018

Grower:

Sampled By:

Field: BOS-L20-B03-0-20181206

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 42.9

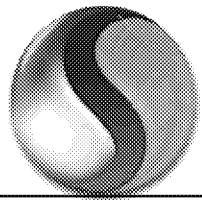
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 2.0                |                    |                    |
| <b>Totals</b>   | <b>2.0</b>         |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

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**ANCHOR QEA**

720 OLIVE WAY STE 1900

SEATTLE, WA 98101

Laboratory #: S18-26740

Date Received: 12/6/2018

Grower:

Sampled By:

Field: BOS-L20-BL-20181206

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg ND (u)

Organic Matter W.B. %

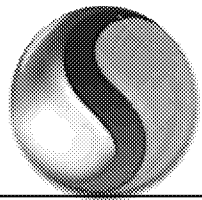
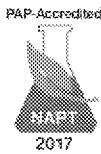
| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | ND(u)              |                    |                    |
| <b>Totals</b>   |                    |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

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**ANCHOR QEA**

720 OLIVE WAY STE 1900

SEATTLE, WA 98101

Laboratory #: S18-26741

Date Received: 12/6/2018

Grower:

Sampled By:

Field: BOS-L09-S01-0-20181206

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 241.9

Organic Matter W.B. %

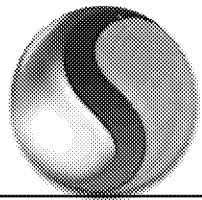
| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 19.8               |                    |                    |
| <b>Totals</b>   | <b>19.8</b>        |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

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**ANCHOR QEA**

720 OLIVE WAY STE 1900

SEATTLE, WA 98101

Laboratory #: S18-26745

Date Received: 12/6/2018

Grower:

Sampled By:

Field: BOS-L09-B01-0-20181206

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 142.4

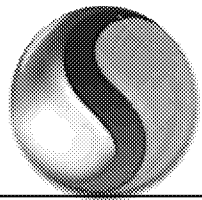
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 37.9               |                    |                    |
| <b>Totals</b>   | <b>37.9</b>        |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S18-26745 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$17.00**



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**ANCHOR QEA**

720 OLIVE WAY STE 1900

SEATTLE, WA 98101

Laboratory #: S18-26749

Date Received: 12/6/2018

Grower:

Sampled By:

Field: BOS-L09-S02-0-20181206

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 19.6

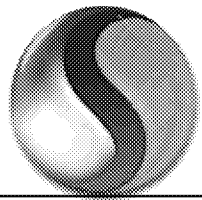
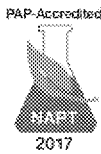
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 346.5              |                    |                    |
| <b>Totals</b>   | <b>346.5</b>       |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S18-26749 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$17.00**



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**ANCHOR QEA**

720 OLIVE WAY STE 1900

SEATTLE, WA 98101

Laboratory #: S18-26752

Date Received: 12/6/2018

Grower:

Sampled By:

Field: BOS-L09-S03-0-20181206

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 5.4

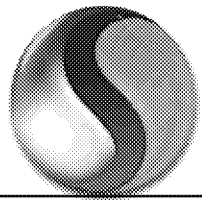
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 462.8              |                    |                    |
| <b>Totals</b>   | <b>462.8</b>       |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S18-26752 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$17.00**



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**ANCHOR QEA**

720 OLIVE WAY STE 1900

SEATTLE, WA 98101

Laboratory #: S18-26755

Date Received: 12/6/2018

Grower:

Sampled By:

Field: BOS-L09-S04-0-20181206

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 16.6

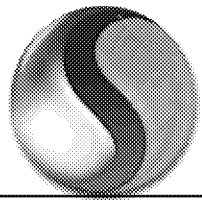
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 148.6              |                    |                    |
| <b>Totals</b>   | <b>148.6</b>       |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S18-26755 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$17.00**



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**ANCHOR QEA**

720 OLIVE WAY STE 1900

SEATTLE, WA 98101

Laboratory #: S18-26756

Date Received: 12/6/2018

Grower:

Sampled By:

Field: BOS-L19-B01-0-20181206

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 32.5

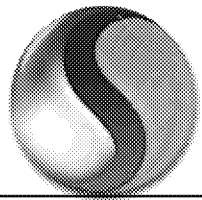
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 415.2              |                    |                    |
| <b>Totals</b>   | <b>415.2</b>       |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S18-26756 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$17.00**



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**ANCHOR QEA**

720 OLIVE WAY STE 1900

SEATTLE, WA 98101

Laboratory #: S18-26758

Date Received: 12/6/2018

Grower:

Sampled By:

Field: BOS-L19-S01-0-20181206

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 18.6

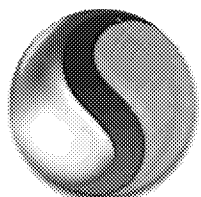
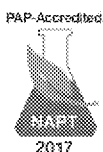
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 15.4               |                    |                    |
| <b>Totals</b>   | <b>15.4</b>        |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S18-26758 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$17.00**



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**ANCHOR QEA**

720 OLIVE WAY STE 1900

SEATTLE, WA 98101

Laboratory #: S18-26760

Date Received: 12/6/2018

Grower:

Sampled By:

Field: BOS-L19-S02-0-20181206

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 11.0

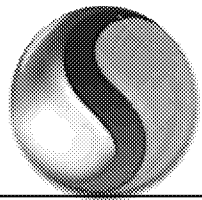
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 182.4              |                    |                    |
| <b>Totals</b>   | <b>182.4</b>       |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S18-26760 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$17.00**



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**SOILTEST FARM CONSULTANTS - 1**

2925 DRIGGS DR

Moses Lake, WA 98837

Laboratory #: S19-06854

Date Received: 5/7/2019

Grower: LIBERTY DAIRY

Sampled By:

Field: BOS-L19-BO1-1-20190507

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Lbs/Acre

Ammonium - N mg/kg 2.6 10

Organic Matter W.B. % ENR:

| Depth<br>inches | Nitrate-N<br>mg/kg lbs/acre | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|-----------------------------|--------------------|--------------------|
| 0 - 12          | 1.3 5                       |                    |                    |
| <b>Totals</b>   | <b>1.3 5</b>                |                    |                    |

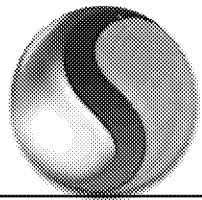
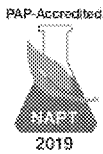
**Sum of Tested N: 15 lbs/acre N**

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-06854 Account # 100100 Reviewed by: KEB List Cost: \$17.00**





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**SOILTEST FARM CONSULTANTS - 1**

2925 DRIGGS DR

Moses Lake, WA 98837

Laboratory #: S19-06855

Date Received: 5/7/2019

Grower: LIBERTY DAIRY

Sampled By:

Field: BOS-L19-SO1-1-20190507

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Lbs/Acre

Ammonium - N mg/kg 1.1 4

Organic Matter W.B. % ENR:

| Depth         | Nitrate-N    |            | Sulfate-S | Moisture |
|---------------|--------------|------------|-----------|----------|
| inches        | mg/kg        | lbs/acre   | mg/kg     | Inches   |
| 0 - 12        | 131.3        | 525        |           |          |
| <b>Totals</b> | <b>131.3</b> | <b>525</b> |           |          |

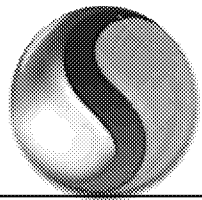
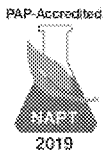
**Sum of Tested N: 529 lbs/acre N**

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-06855 Account # 100100 Reviewed by: KEB List Cost: \$17.00**

ED\_002369M\_00000022-00037



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**SOILTEST FARM CONSULTANTS - 1**

2925 DRIGGS DR

Moses Lake, WA 98837

Laboratory #: S19-06856

Date Received: 5/7/2019

Grower: LIBERTY DAIRY

Sampled By:

Field: BOS-L19-SO2-1-20190507

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Lbs/Acre

Ammonium - N mg/kg 1.1 4

Organic Matter W.B. % ENR:

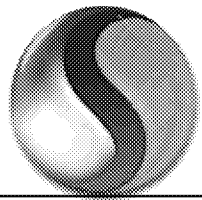
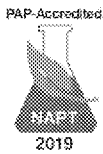
| Depth         | Nitrate-N   |            | Sulfate-S | Moisture |
|---------------|-------------|------------|-----------|----------|
| inches        | mg/kg       | lbs/acre   | mg/kg     | Inches   |
| 0 - 12        | 39.6        | 158        |           |          |
| <b>Totals</b> | <b>39.6</b> | <b>158</b> |           |          |

**Sum of Tested N: 162 lbs/acre N**

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-06856 Account # 100100 Reviewed by: KEB List Cost: \$17.00**



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**SOILTEST FARM CONSULTANTS - 1**

2925 DRIGGS DR

Moses Lake , WA 98837

Laboratory #: S19-06857

Date Received: 5/7/2019

Grower: LIBERTY DAIRY

Sampled By:

Field: BOS-L19-S03-1-20190507

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Lbs/Acre

Ammonium - N mg/kg 1.0 4

Organic Matter W.B. % ENR:

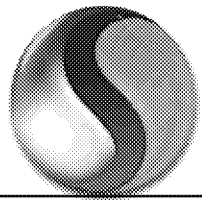
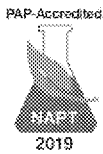
| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 56.9               | 228                |                    |
| <b>Totals</b>   | <b>56.9</b>        | <b>228</b>         |                    |

**Sum of Tested N: 232 lbs/acre N**

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-06857 Account # 100100 Reviewed by: KEB List Cost: \$17.00**



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**SOILTEST FARM CONSULTANTS - 1**

2925 DRIGGS DR

Moses Lake, WA 98837

Laboratory #: S19-06858

Date Received: 5/7/2019

Grower: LIBERTY DAIRY

Sampled By:

Field: BOS-L19-SO4-1-20190507

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Lbs/Acre

Ammonium - N mg/kg 0.8 3

Organic Matter W.B. % ENR:

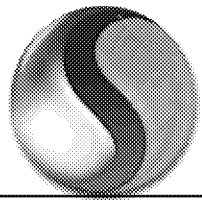
| Depth         | Nitrate-N   |           | Sulfate-S | Moisture |
|---------------|-------------|-----------|-----------|----------|
| inches        | mg/kg       | lbs/acre  | mg/kg     | Inches   |
| 0 - 12        | 14.1        | 56        |           |          |
| <b>Totals</b> | <b>14.1</b> | <b>56</b> |           |          |

**Sum of Tested N: 59 lbs/acre N**

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-06858 Account # 100100 Reviewed by: KEB List Cost: \$17.00**



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**ANCHOR QEA**  
1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-07376

Date Received: 5/15/2019

Grower: LIBERTY DAIRY

Sampled By:

Field: BOS-L19-S01-2-20190507

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 1.9

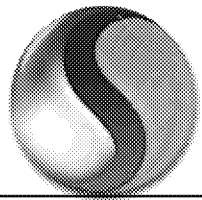
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 15.0               |                    |                    |
| <b>Totals</b>   | <b>15.0</b>        |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-07376 Account # 110340 Reviewed by: KEB List Cost: \$17.00**



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**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-07377

Date Received: 5/15/2019

Grower: LIBERTY DAIRY

Sampled By:

Field: BOS-L19-S01-3-20190507

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 1.8

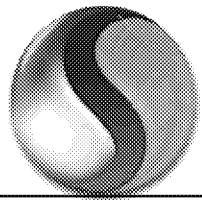
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 41.7               |                    |                    |
| <b>Totals</b>   | <b>41.7</b>        |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-07377 Account # 110340 Reviewed by: KEB List Cost: \$17.00**



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**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-07378

Date Received: 5/15/2019

Grower: LIBERTY DAIRY

Sampled By:

Field: BOS-L19-S03-2-20190507

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 1.5

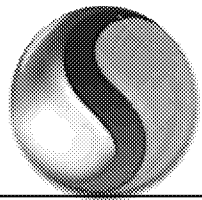
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 70.6               |                    |                    |
| <b>Totals</b>   | <b>70.6</b>        |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-07378 Account # 110340 Reviewed by: KEB List Cost: \$17.00**



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**ANCHOR QEA**  
1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-07379

Date Received: 5/15/2019

Grower: LIBERTY DAIRY

Sampled By:

Field: BOS-L19-S03-3-20190507

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 1.5

Organic Matter W.B. %

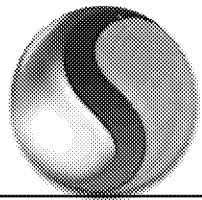
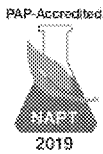
| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 91.4               |                    |                    |
| <b>Totals</b>   | <b>91.4</b>        |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-07379 Account # 110340 Reviewed by: KEB List Cost: \$17.00**





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**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-07516

Date Received: 5/17/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L20-BO1-1-20190517

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg ND (u)

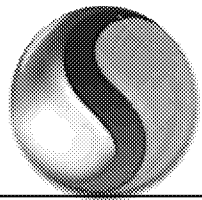
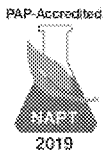
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 2.3                |                    |                    |
| <b>Totals</b>   | <b>2.3</b>         |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-07516 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$42.00**



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**ANCHOR QEA**  
1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-07517

Date Received: 5/17/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L20-SO1-1-20190517

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg ND (u)

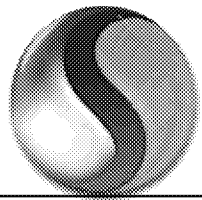
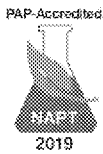
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 4.4                |                    |                    |
| <b>Totals</b>   | <b>4.4</b>         |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-07517 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$42.00**



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**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-07518

Date Received: 5/17/2019

Grower: ANCHOR QEA

Sampled By: S02

Field: BOS-L20-S02-1-20190517

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg ND (u)

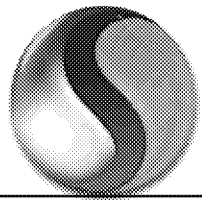
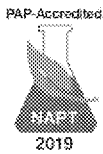
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 10.1               |                    |                    |
| <b>Totals</b>   | <b>10.1</b>        |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-07518 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$42.00**



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**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-07519

Date Received: 5/17/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L20-SO3-1-20190517

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 1.2

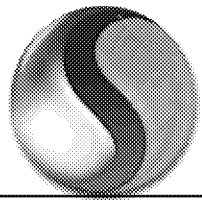
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 1.9                |                    |                    |
| <b>Totals</b>   | <b>1.9</b>         |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-07519 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$42.00**



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**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-07520

Date Received: 5/17/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L20-SO4-1-20190517

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg ND (u)

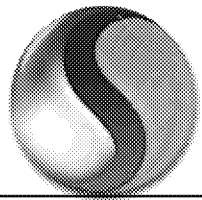
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 6.8                |                    |                    |
| <b>Totals</b>   | <b>6.8</b>         |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

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**ANCHOR QEA**  
1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-07521

Date Received: 5/17/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L19-SO3-4-20190517

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg ND (u)

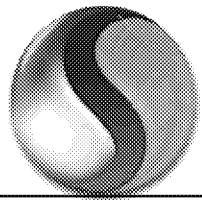
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 4.7                |                    |                    |
| <b>Totals</b>   | <b>4.7</b>         |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-07521 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$42.00**



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**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-08354

Date Received: 6/4/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L09-B01-1-20190530

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg ND (u)

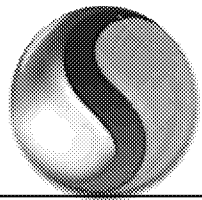
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 29.2               |                    |                    |
| <b>Totals</b>   | <b>29.2</b>        |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-08354 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$42.00**



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**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-08355

Date Received: 6/4/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L09-S01-1-20190530

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg ND (u)

Organic Matter W.B. %

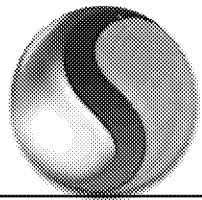
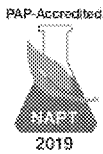
| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 5.6                |                    |                    |
| <b>Totals</b>   | <b>5.6</b>         |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-08355 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$42.00**





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**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-08356

Date Received: 6/4/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L09-S02-1-20190530

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg ND (u)

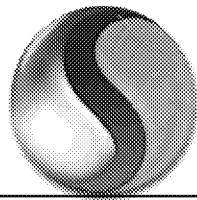
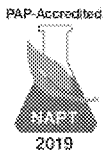
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 29.5               |                    |                    |
| <b>Totals</b>   | <b>29.5</b>        |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-08356 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$42.00**



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**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-08357

Date Received: 6/4/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L09-S03-1-20190530

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg ND (u)

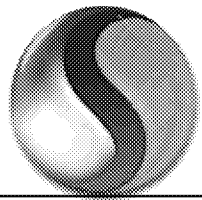
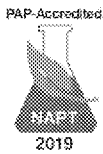
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 1.1                |                    |                    |
| <b>Totals</b>   | <b>1.1</b>         |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-08357 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$42.00**



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**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-08358

Date Received: 6/4/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L09-S04-1-20190530

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg ND (u)

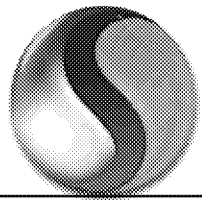
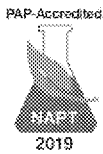
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 0.6                |                    |                    |
| <b>Totals</b>   | <b>0.6</b>         |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-08358 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$42.00**



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**ANCHOR QEA**  
1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-09160

Date Received: 6/12/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L08-B01-1-20190611

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 1.5

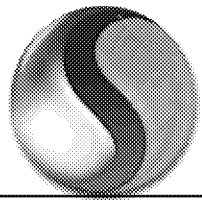
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 0.5                |                    |                    |
| <b>Totals</b>   | <b>0.5</b>         |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-09160 Account # 110340 Reviewed by: KEB List Cost: \$42.00**



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**ANCHOR QEA**  
1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-09161

Date Received: 6/12/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L08-S01-1-20190611

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 1.2

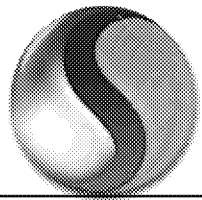
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 0.7                |                    |                    |
| <b>Totals</b>   | <b>0.7</b>         |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-09161 Account # 110340 Reviewed by: KEB List Cost: \$42.00**



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**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-09162

Date Received: 6/12/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L08-S02-1-20190611

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg 1.5

Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 17.1               |                    |                    |
| <b>Totals</b>   | <b>17.1</b>        |                    |                    |

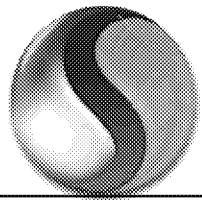
Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-09162 Account # 110340**

**Reviewed by: KEB**

**List Cost: \$42.00**



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**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-09163

Date Received: 6/12/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L08-S03-1-20190611

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg ND (u)

Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 45.3               |                    |                    |
| <b>Totals</b>   | <b>45.3</b>        |                    |                    |

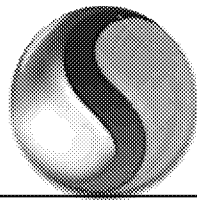
Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-09163 Account # 110340**

**Reviewed by: KEB**

**List Cost: \$42.00**



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**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-09164

Date Received: 6/12/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L08-S04-1-20190611

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg ND (u)

Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 1.8                |                    |                    |
| <b>Totals</b>   | <b>1.8</b>         |                    |                    |

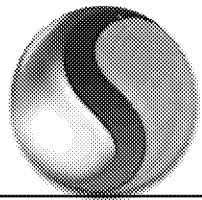
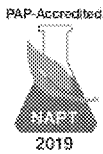
Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-09164 Account # 110340 Reviewed by: KEB**

**List Cost: \$42.00**





**soiltest**  
farm consultants, inc.

2925 Driggs Dr., Moses Lake, WA 98807 • www.soiltestlab.com  
Office: (509)785-1822 • Fax: (509)785-6214 • (509)784-1822



**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-09849

Date Received: 6/21/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L08-S03-2-20190611

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg ND (u)

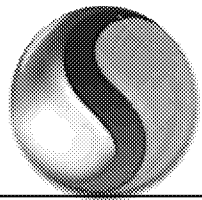
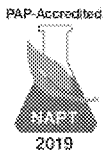
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 37.2               |                    |                    |
| <b>Totals</b>   | <b>37.2</b>        |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-09849 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$42.00**



**soiltest**  
farm consultants, inc.

2925 Driggs Dr., Moses Lake, WA 98807 • www.soiltestlab.com  
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**ANCHOR QEA**

1201 3rd AVE. STE 2600

SEATTLE, WA 98101

Laboratory #: S19-09850

Date Received: 6/21/2019

Grower: ANCHOR QEA

Sampled By:

Field: BOS-L08-S03-3-20190611

Customer Account #:

Customer Sample ID:

**Soil Test Results**

pH 1:1

E.C. 1:1 m.mhos/cm

Est Sat Paste E.C. m.mhos/cm

Effervescence

Ammonium - N mg/kg ND (u)

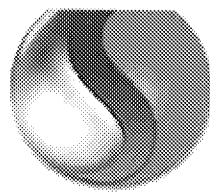
Organic Matter W.B. %

| Depth<br>inches | Nitrate-N<br>mg/kg | Sulfate-S<br>mg/kg | Moisture<br>Inches |
|-----------------|--------------------|--------------------|--------------------|
| 0 - 12          | 33.4               |                    |                    |
| <b>Totals</b>   | <b>33.4</b>        |                    |                    |

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

**This is your Invoice #: S19-09850 Account # 110340 Reviewed by: B.Thyssen, CP List Cost: \$42.00**



**soiltest**  
farm consultants, inc.  
2925 Briggs Dr., Moses Lake, WA 98837 • www.soiltestlab.com  
Office: (509)765-1622 • Fax: (509)765-0114 • (800)764-1622

Billed to Anchor QEA  
Josh Sexton  
MAY 07 2019

## Laboratory Chain of Custody

|                                  |                                  |
|----------------------------------|----------------------------------|
| <b>Client: Please fill out:</b>  | <b>Copy of report sent to:</b>   |
| Company: Liberty Dairy           | Company: Liberty Dairy           |
| Contact: Henry Bosma             | Contact:                         |
| Address: 4300 Beam Road          | Address: 4300 Beam Road          |
| City, ST, Zip.: Zillah, WA 98953 | City, ST, Zip.: Zillah, WA 98953 |
| Telephone: 509-728-2405          | Telephone:                       |
| Fax:                             | Fax:                             |
| e mail: cowman@centurylink.net   | e mail:                          |

Date: 05/07/2019  
Page 1 of 2

Job #/ Name:  
Payment Method: Credit Card \_\_\_ Est. Acct. \_\_\_

### Analyses Requested

Write sample information in horizontal rows. Write test name(s) or code(s) in verticle boxes at left. Mark an "X" at the intersection(s) where appropriate.

| Sample Identification  | Date Sampled | No. of Containers | Sample Matrix | Ammonium<br>S-3.5 | Nitrate<br>S-3.10 | Hold<br>(Freeze or Dry) | Lab Use Only     |        |
|------------------------|--------------|-------------------|---------------|-------------------|-------------------|-------------------------|------------------|--------|
|                        |              |                   |               |                   |                   |                         | Sample Condition | LAB ID |
| BOS-L19-BO1-1-20190507 | 05/7/2019    | 1                 | SOIL          | X                 | X                 |                         |                  | 06854  |
| BOS-L19-BO1-2-20190507 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L19-BO1-3-20190507 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L19-SO1-1-20190507 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 06855  |
| BOS-L19-SO1-2-20190507 |              | 1                 | SOIL          |                   |                   | X                       |                  | 7376   |
| BOS-L19-SO1-3-20190507 |              | 1                 | SOIL          |                   |                   | X                       |                  | 7377   |
| BOS-L19-SO2-1-20190507 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 06856  |
| BOS-L19-SO2-2-20190507 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |

### Releasing

Date/Time

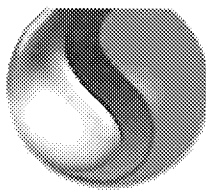
### Receiving

Date

Time

|                       |                       |        |         |
|-----------------------|-----------------------|--------|---------|
| Releasing signature 1 | Receiving Signature 1 | 5/7/19 | 2:15 PM |
| Releasing signature 2 | Receiving Signature 2 |        |         |
| Releasing signature 3 | Receiving Signature 3 |        |         |

Submission of samples to Laboratory with a Chain of Custody constitutes a contract for services requested. Provide payment detail with each COC. If no payment information is provided, you will be contacted by the laboratory. We will make every effort to provide an accurate analysis of this sample. For reasonable cause, we will repeat the tests, but because of factors beyond our control, in sampling procedures and inherent sample variability in compost, soils, plants and water our liability is limited to the price of the tests.



**soiltest**  
farm consultants, inc.  
1928 Driggs Dr., Moses Lake, WA 98817 - www.soiltestlab.com  
Office: (509)765-1622 - Fax: (509)765-0314 - (800)764-1622

Billed to Anchor Q54  
Josh Sexton

MAY 07 2019

## Laboratory Chain of Custody

|                                  |                                  |
|----------------------------------|----------------------------------|
| <b>Client: Please fill out:</b>  | <b>Copy of report sent to:</b>   |
| Company: Liberty Dairy           | Company: Liberty Dairy           |
| Contact: Henry Bosma             | Contact:                         |
| Address: 4300 Beam Road          | Address: 4300 Beam Road          |
| City, ST, Zip.: Zillah, WA 98953 | City, ST, Zip.: Zillah, WA 98953 |
| Telephone: 509-728-2405          | Telephone:                       |
| Fax:                             | Fax:                             |
| e mail: cowman@centurylink.net   | e mail:                          |

Date: 05/07/2019  
Page 2 of 2

Job #/ Name:  
Payment Method: Credit Card Est. Acct.:

### Analyses Requested

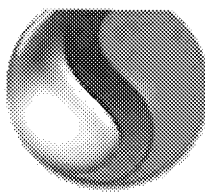
Write sample information in horizontal rows. Write test name(s) or code(s) in vertical boxes at left. Mark an "X" at the intersection(s) where appropriate.

| Sample Identification  | Date Sampled | No. of Containers | Sample Matrix | Ammonium<br>S-3.5 | Nitrate<br>S-3.10 | Hold<br>(Freeze or Dry) | Lab Use Only     |        |
|------------------------|--------------|-------------------|---------------|-------------------|-------------------|-------------------------|------------------|--------|
|                        |              |                   |               |                   |                   |                         | Sample Condition | LAB ID |
| BOS-L19-S02-3-20190507 | 05/7/2019    | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L19-S03-1-20190507 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 06857  |
| BOS-L19-S03-2-20190507 |              | 1                 | SOIL          |                   |                   | X                       |                  | 7378   |
| BOS-L19-S03-3-20190507 |              | 1                 | SOIL          |                   |                   | X                       |                  | 7379   |
| BOS-L19-S04-1-20190507 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 06858  |
| BOS-L19-S04-2-20190507 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L19-S04-3-20190507 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L19-S04-1-20190507 |              | 1                 | SOIL          | X                 | X                 |                         |                  |        |

| Releasing             | Date/Time | Receiving             | Date   | Time    |
|-----------------------|-----------|-----------------------|--------|---------|
| Releasing signature 1 |           | Receiving Signature 1 | 5/7/19 | 2:55 PM |
| Releasing signature 2 |           | Receiving Signature 2 |        |         |
| Releasing signature 3 |           | Receiving Signature 3 |        |         |

Submission of samples to Laboratory with a Chain of Custody constitutes a contract for services requested. Provide payment detail with each COC. If no payment information is provided, you will be contacted by the laboratory. We will make every effort to provide an accurate analysis of this sample. For reasonable cause, we will repeat the tests, but because of factors beyond our control, in sampling procedures and inherent sample variability in compost, soils, plants and water our liability is limited to the price of the tests.

LA-3



# soiltest

farm consultants, inc.

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MAY 17 2019

## Laboratory Chain of Custody

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| <b>Client: Please fill out:</b>   | <b>Copy of report sent to:</b>    |
| Company: Anchor QEA               | Company: Anchor QEA               |
| Contact: Cindy Fields             | Contact: Cindy Fields             |
| Address: 1201 3rd Ave             | Address: 1201 3rd Ave             |
| City, ST, Zip.: Seattle, WA 98101 | City, ST, Zip.: Seattle, WA 98101 |
| Telephone: 206-903-3394           | Telephone: 206-903-3394           |
| Fax:                              | Fax:                              |
| e mail: cfields@anchorqea.com     | e mail: cfields@anchorqea.com     |

Date: 05/17/2019

Page 1 of 2

Job #/ Name:

Payment Method: Credit Card Est. Acct.

### Analyses Requested

Write sample information in horizontal rows. Write test name(s) or code(s) in verticle boxes at left. Mark an "X" at the intersection(s) where appropriate.

| Sample Identification  | Date Sampled | No. of Containers | Sample Matrix | Ammonium<br>S-3.5 | Nitrate<br>S-3.10 | Hold<br>(Freeze or Dry) | Lab Use Only     |        |
|------------------------|--------------|-------------------|---------------|-------------------|-------------------|-------------------------|------------------|--------|
|                        |              |                   |               |                   |                   |                         | Sample Condition | LAB ID |
| BOS-L20-BO1-1-20190517 | 05/17/2019   | 1                 | SOIL          | X                 | X                 |                         |                  | 07516  |
| BOS-L20-BO1-2-20190517 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L20-BO1-3-20190517 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L20-SO1-1-20190517 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 07517  |
| BOS-L20-SO1-2-20190517 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L20-SO1-3-20190517 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L20-SO2-1-20190517 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 07518  |
| BOS-L20-SO2-2-20190517 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |

### Releasing

Date/Time

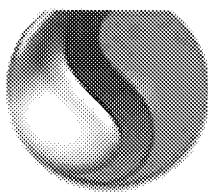
### Receiving

Date

Time

|                       |                       |      |        |
|-----------------------|-----------------------|------|--------|
| Releasing signature 1 | Receiving Signature 1 | 5/17 | 2:00pm |
| Releasing signature 2 | Receiving Signature 2 |      |        |
| Releasing signature 3 | Receiving Signature 3 |      |        |

Submission of samples to Laboratory with a Chain of Custody constitutes a contract for services requested. Provide payment detail with each COC. If no payment information is provided, you will be contacted by the laboratory. We will make every effort to provide an accurate analysis of this sample. For reasonable cause, we will repeat the tests, but because of factors beyond our control, in sampling procedures and inherent sample variability in compost, soils, plants and water our liability is limited to the price of the tests.



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farm consultants, inc.  
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MAY 17 2019

## Laboratory Chain of Custody

|                                 |                        |                                |                        |
|---------------------------------|------------------------|--------------------------------|------------------------|
| <b>Client: Please fill out:</b> |                        | <b>Copy of report sent to:</b> |                        |
| Company:                        | Anchor QEA             | Company:                       | Anchor QEA             |
| Contact:                        | Cindy Fields           | Contact:                       | Cindy Fields           |
| Address:                        | 1201 3rd Ave           | Address:                       | 1201 3rd Ave           |
| City, ST, Zip.:                 | Seattle, WA 98101      | City, ST, Zip.:                | Seattle, WA 98101      |
| Telephone:                      | 206-903-3394           | Telephone:                     | 206-903-3394           |
| Fax:                            |                        | Fax:                           |                        |
| e mail:                         | cfields@anchoragea.com | e mail:                        | cfields@anchoragea.com |

Date: 05/17/2019  
Page 2 of 2

Job #/ Name: \_\_\_\_\_  
Payment Method: Credit Card \_\_\_\_\_ Est. Acct. \_\_\_\_\_

### Analyses Requested

Write sample information in horizontal rows. Write test name(s) or code(s) in verticle boxes at left. Mark an "X" at the intersection(s) where appropriate.

| Sample Identification  | Date Sampled | No. of Containers | Sample Matrix | Ammonium<br>S-3.5 | Nitrate<br>S-3.10 | Hold<br>(Freeze or Dry) | Lab Use Only     |        |
|------------------------|--------------|-------------------|---------------|-------------------|-------------------|-------------------------|------------------|--------|
|                        |              |                   |               |                   |                   |                         | Sample Condition | LAB ID |
| BOS-L20-S02-3-20190517 | 05/17/2019   | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L20-S03-1-20190517 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 07519  |
| BOS-L20-S03-2-20190517 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L20-S03-3-20190517 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L20-S04-1-20190517 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 07520  |
| BOS-L20-S04-2-20190517 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L20-S04-3-20190517 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L19-S03-4-20190517 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 07521  |

### Releasing

Date/Time

### Receiving

Date

Time

|                       |  |                       |  |         |      |
|-----------------------|--|-----------------------|--|---------|------|
| Releasing signature 1 |  | Receiving Signature 1 |  | 5/17/19 | 2:00 |
| Releasing signature 2 |  | Receiving Signature 2 |  |         |      |
| Releasing signature 3 |  | Receiving Signature 3 |  |         |      |

Submission of samples to Laboratory with a Chain of Custody constitutes a contract for services requested. Provide payment detail with each COC. If no payment information is provided, you will be contacted by the laboratory. We will make every effort to provide an accurate analysis of this sample. For reasonable cause, we will repeat the tests, but because of factors beyond our control, in sampling procedures and inherent sample variability in compost, soils, plants and water our liability is limited to the price of the tests.

## Laboratory Chain of Custody

|                                 |                                |
|---------------------------------|--------------------------------|
| <b>Client: Please fill out:</b> | <b>Copy of report sent to:</b> |
| Company: Anchor QEA             | Company: Anchor QEA            |
| Contact: Cindy Fields           | Contact: Cindy Fields          |
| Address: 720 Olive Way          | Address:                       |
| City, ST, Zip.: Seattle, WA     | City, ST, Zip.:                |
| Telephone: 206-903-3394         | Telephone:                     |
| Fax:                            | Fax:                           |
| e mail: cfields@anchoragea.com  | e mail: labdata@anchoragea.com |

Date: 05/30/2019  
Page 1 of 2

Job #/ Name: Yakima Valley Dairies  
Payment Method: Credit Card \_\_\_ Est. Acct. \_\_\_

*EPA Level QC required.*  
*Rush results*

*Samples put in freezer  
5/31/2019 at 09:00.*

### Analyses Requested

Write sample information in horizontal rows. Write test name(s) or code(s) in verticle boxes at left. Mark an "X" at the intersection(s) where appropriate.

| Sample Identification  | Date Sampled | No. of Containers | Sample Matrix | Ammonium<br>S-3.5 | Nitrate<br>S-3.10 | Hold<br>(Freeze or Dry) | Lab Use Only     |        |
|------------------------|--------------|-------------------|---------------|-------------------|-------------------|-------------------------|------------------|--------|
|                        |              |                   |               |                   |                   |                         | Sample Condition | LAB ID |
| BOS-L09-B01-1-20190530 | 05/30/2019   | 1                 | SOIL          | X                 | X                 |                         |                  | 8354   |
| BOS-L09-B01-2-20190530 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L09-B01-3-20190530 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L09-S01-1-20190530 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 8355   |
| BOS-L09-S01-2-20190530 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L09-S01-3-20190530 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L09-S02-1-20190530 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 8356   |
| BOS-L09-S02-2-20190530 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |

### Releasing

Date/Time

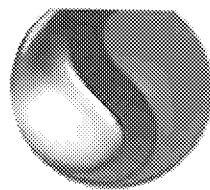
### Receiving

Date

Time

|                       |                    |               |                       |                    |        |       |
|-----------------------|--------------------|---------------|-----------------------|--------------------|--------|-------|
| Releasing signature 1 | <i>[Signature]</i> | 5/30/19 17:00 | Receiving Signature 1 | <i>[Signature]</i> | 6-4-19 | 10:00 |
| Releasing signature 2 |                    |               | Receiving Signature 2 |                    |        |       |
| Releasing signature 3 |                    |               | Receiving Signature 3 |                    |        |       |

Submission of samples to Laboratory with a Chain of Custody constitutes a contract for services requested. Provide payment detail with each COC. If no payment information is provided, you will be contacted by the laboratory. We will make every effort to provide an accurate analysis of this sample. For reasonable cause, we will repeat the tests, but because of factors beyond our control, in sampling procedures and inherent sample variability in compost, soils, plants and water our liability is limited to the price of the tests.



**soiltest**  
farm consultants, inc.

2425 Briggs Dr., Moses Lake, WA 98837 - www.soiltestlab.com  
Office: (509)765-1622 - Fax: (509)765-0314 - (800)744-1622

## Laboratory Chain of Custody

|                                 |                                |
|---------------------------------|--------------------------------|
| <b>Client: Please fill out:</b> | <b>Copy of report sent to:</b> |
| Company: Anchor QEA             | Company: Anchor QEA            |
| Contact: Cindy Fields           | Contact: Cindy Fields          |
| Address: 720 Olive Way          | Address:                       |
| City, ST, Zip.: Seattle, WA     | City, ST, Zip.:                |
| Telephone: 206-903-3394         | Telephone:                     |
| Fax:                            | Fax:                           |
| e mail: cfields@anchoragea.com  | e mail: labdata@anchoragea.com |

Date: 05/30/2019

Page 2 of 2

Job #/ Name: Yakima Valley Dairies

Payment Method: Credit Card \_\_\_ Est. Acct. \_\_\_

### Analyses Requested

Write sample information in horizontal rows. Write test name(s) or code(s) in verticle boxes at left. Mark an "X" at the intersection(s) where appropriate.

| Sample Identification  | Date Sampled | No. of Containers | Sample Matrix | Ammonium<br>S-3.5 | Nitrate<br>S-3.10 | Hold<br>(Freeze or Dry) | Lab Use Only     |        |
|------------------------|--------------|-------------------|---------------|-------------------|-------------------|-------------------------|------------------|--------|
|                        |              |                   |               |                   |                   |                         | Sample Condition | LAB ID |
| BOS-L09-S02-3-20190530 | 05/30/2019   | 1                 | SOIL          |                   |                   |                         |                  |        |
| BOS-L09-S03-1-20190530 |              | 1                 | SOIL          | X                 | X                 | X                       |                  | 8357   |
| BOS-L09-S03-2-20190530 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L09-S03-3-20190530 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L09-S04-1-20190530 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 8358   |
| BOS-L09-S04-2-20190530 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
| BOS-L09-S04-3-20190530 |              | 1                 | SOIL          |                   |                   | X                       |                  |        |
|                        |              | 1                 | SOIL          |                   |                   | X                       |                  |        |

### Releasing

Date/Time

### Receiving

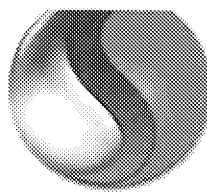
Date

Time

|                       |               |                       |        |       |
|-----------------------|---------------|-----------------------|--------|-------|
| Releasing signature 1 | 5/30/19 14:00 | Receiving Signature 1 | 6-4-19 | 10:00 |
| Releasing signature 2 |               | Receiving Signature 2 |        |       |
| Releasing signature 3 |               | Receiving Signature 3 |        |       |

Submission of samples to Laboratory with a Chain of Custody constitutes a contract for services requested. Provide payment detail with each COC. If no payment information is provided, you will be contacted by the laboratory. We will make every effort to provide an accurate analysis of this sample. For reasonable cause, we will repeat the tests, but because of factors beyond our control, in sampling procedures and inherent sample variability in compost, soils, plants and water our liability is limited to the price of the tests.





# soiltest

farm consultants, inc.

1928 Driggs Dr., Moses Lake, WA 98837 - www.soiltestlab.com  
Office: (509)785-1622 - Fax: (509)785-0314 - (509)784-1622

JUN 12 2019

## Laboratory Chain of Custody

|                                 |                                 |
|---------------------------------|---------------------------------|
| <b>Client: Please fill out:</b> | <b>Copy of report sent to:</b>  |
| Company: Anchor QEA             | Company: Anchor QEA             |
| Contact: Cindy Fields           | Contact: Cindy Fields           |
| Address: 720 Olive Way          | Address:                        |
| City, ST, Zip.: Seattle, WA     | City, ST, Zip.:                 |
| Telephone: 206-903-3394         | Telephone:                      |
| Fax:                            | email: js Sexton@anchoragea.com |
| e mail: cfields@anchoragea.com  | e mail: labdata@anchoragea.com  |

Date: 06/11/2019  
Page 1 of 2

Job #/ Name: Yakima Valley Dairies

Payment Method: Credit Card Est. Acct.

### Analyses Requested

Write sample information in horizontal rows. Write test name(s) or code(s) in verticle boxes at left. Mark an "X" at the intersection(s) where appropriate.

| Sample Identification  | Date Sampled | No. of Containers | Sample Matrix | Ammonium<br>S-3.5 | Nitrate<br>S-3.10 | Hold<br>(Freeze or Dry) | Lab Use Only     |        |
|------------------------|--------------|-------------------|---------------|-------------------|-------------------|-------------------------|------------------|--------|
|                        |              |                   |               |                   |                   |                         | Sample Condition | LAB ID |
| BOS-L08-BO1-1-20190611 | 06/11/2019   | 1                 | SOIL          | X                 | X                 |                         |                  | 09160  |
| BOS-L08-BO1-2-20190611 |              | 1                 | SOIL          |                   |                   | X                       |                  | 09851  |
| BOS-L08-BO1-3-20190611 |              | 1                 | SOIL          |                   |                   | X                       |                  | 09852  |
| BOS-L08-SO1-1-20190611 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 09161  |
| BOS-L08-SO1-2-20190611 |              | 1                 | SOIL          |                   |                   | X                       |                  | 09853  |
| BOS-L08-SO1-3-20190611 |              | 1                 | SOIL          |                   |                   | X                       |                  | 09854  |
| BOS-L08-SO2-1-20190611 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 09162  |
| BOS-L08-SO2-2-20190611 |              | 1                 | SOIL          |                   |                   | X                       |                  | 09855  |

### Releasing

Date/Time

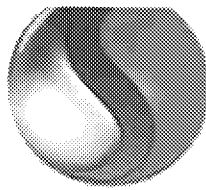
### Receiving

Date

Time

|                       |               |                       |         |       |
|-----------------------|---------------|-----------------------|---------|-------|
| Releasing signature 1 | 6/11/19 14:00 | Receiving Signature 1 | 6-12-19 | 10:15 |
| Releasing signature 2 |               | Receiving Signature 2 |         |       |
| Releasing signature 3 |               | Receiving Signature 3 |         |       |

Submission of samples to Laboratory with a Chain of Custody constitutes a contract for services requested. Provide payment detail with each COC. If no payment information is provided, you will be contacted by the laboratory. We will make every effort to provide an accurate analysis of this sample. For reasonable cause, we will repeat the tests, but because of factors beyond our control, in sampling procedures and inherent sample variability in compost, soils, plants and water our liability is limited to the price of the tests.



**soiltest**  
farm consultants, inc.  
2925 Deluge Dr., Moses Lake, WA 98817 - www.soiltestlab.com  
Office: (509)765-1622 - Fax: (509)765-0314 - (800)764-1622

## Laboratory Chain of Custody

|                                 |                                |
|---------------------------------|--------------------------------|
| <b>Client: Please fill out:</b> | <b>Copy of report sent to:</b> |
| Company: Anchor QEA             | Company: Anchor QEA            |
| Contact: Cindy Fields           | Contact: Cindy Fields          |
| Address: 720 Olive Way          | Address:                       |
| City, ST, Zip.: Seattle, WA     | City, ST, Zip.:                |
| Telephone: 206-903-3394         | Telephone:                     |
| Fax:                            | Fax:                           |
| e mail: cfields@anchoragea.com  | e mail: labdata@anchoragea.com |

Date: 06/11/2019  
Page 2 of 2

Job #/ Name: Yakima Valley Dairies

Payment Method: Credit Card \_\_\_\_\_ Est. Acct. \_\_\_\_\_

### Analyses Requested

Write sample information in horizontal rows. Write test name(s) or code(s) in verticle boxes at left. Mark an "X" at the intersection(s) where appropriate.

| Sample Identification  | Date Sampled | No. of Containers | Sample Matrix | Ammonium<br>S-3.5 | Nitrate<br>S-3.10 | Hold<br>(Freeze or Dry) | Lab Use Only     |        |
|------------------------|--------------|-------------------|---------------|-------------------|-------------------|-------------------------|------------------|--------|
|                        |              |                   |               |                   |                   |                         | Sample Condition | LAB ID |
| BOS-L08-S02-3-20190611 | 06/11/2019   | 1                 | SOIL          |                   |                   | X                       |                  | 09856  |
| BOS-L08-S03-1-20190611 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 09163  |
| BOS-L08-S03-2-20190611 |              | 1                 | SOIL          |                   |                   | X                       |                  | 09849  |
| BOS-L08-S03-3-20190611 |              | 1                 | SOIL          |                   |                   | X                       |                  | 09850  |
| BOS-L08-S04-1-20190611 |              | 1                 | SOIL          | X                 | X                 |                         |                  | 09164  |
| BOS-L08-S04-2-20190611 |              | 1                 | SOIL          |                   |                   | X                       |                  | 09857  |
| BOS-L08-S04-3-20190611 |              | 1                 | SOIL          |                   |                   | X                       |                  | 09858  |
|                        |              | 1                 | SOIL          |                   |                   | X                       |                  |        |

| Releasing             | Date/Time     | Receiving             | Date    | Time  |
|-----------------------|---------------|-----------------------|---------|-------|
| Releasing signature 1 | 6/11/19 18:00 | Receiving Signature 1 | 6-11-19 | 10:15 |
| Releasing signature 2 |               | Receiving Signature 2 |         |       |
| Releasing signature 3 |               | Receiving Signature 3 |         |       |

Submission of samples to Laboratory with a Chain of Custody constitutes a contract for services requested. Provide payment detail with each COC. If no payment information is provided, you will be contacted by the laboratory. We will make every effort to provide an accurate analysis of this sample. For reasonable cause, we will repeat the tests, but because of factors beyond our control, in sampling procedures and inherent sample variability in compost, soils, plants and water our liability is limited to the price of the tests.



# Sample Condition Upon Receipt

Client: Anchor Dea

Project #: 519-6854-6858

Courier: ☐ UPS ☐ Fed EX ☐ USPS

Optional

Proj. Name: \_\_\_\_\_

Proj. Due Date: \_\_\_\_\_

☐ Courier ☐ Client ☐ Other

Tracking Number: \_\_\_\_\_

Custody Seal on Cooler/Box Present? ☐ Yes ☐ No Seals intact? ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other \_\_\_\_\_

Temp Blank ☐ Yes ☐ No Type of Ice ☒ Wet ☐ Blue

Thermometer used \_\_\_\_\_ Cooler temperature C \_\_\_\_\_

Initials and date of Person Examining Contents: KD - 5-7-19

|   |   |  |                              |    | Comments |
|---|---|--|------------------------------|----|----------|
| Chain of Custody Present?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 1  |          |
| Chain of Custody filled out?                                      | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 2  |          |
| Chain of Custody Relinquished?                                    | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 3  |          |
| Sampler Name and/or Signature on COC?                             | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 4  |          |
| Samples Arrived within hold time?                                 | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 5  |          |
| Short hold time Analysis (<12hr)?                                 | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 6  |          |
| Push turn around Requested?                                       | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 7  |          |
| Sufficient Volume?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 8  |          |
| Correct Containers Used?  | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 9  |          |
| SoilBest Containers Used?   | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | <input type="checkbox"/> N/A | 9  |          |
| Containers Intact?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 10 |          |
| Filtered Volume Received for Dissolved Tests?                     | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 11 |          |
| Sample Labels Match COC?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 12 |          |
| Includes Date/Time/ID/Analysis Matrix:                            | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 12 |          |
| All containers needing acid/base preservation have been checked?  | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 13 |          |
| Noncompliances are noted in 13.                                   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 13 |          |
| All containers needing preservation are found to be in compliance | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 13 |          |
| EPA recommendation? (HNO3, H2SO4, HCL < 2, NaOH > 12)             | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 13 |          |
| Exceptions: VOA, Coliform, TOC, Oil & Grease                      | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 13 |          |
| Headspace in VOA vials (>6mm)                                     | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 14 |          |
| Trip Blank Present?   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 14 |          |
| Trip Blank Custody Seals Present?                                 | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 15 |          |

Client Notification/Resolution

Field Data Required? ☐ Yes ☐ No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_

Received and put in cooler and cooled  
5-7-19

Project Manager Review:

[Signature]

Date:

7-8-19



# Sample Condition Upon Receipt

Client: Anchor One

Project #: SA-7516-7521

Courier: ☐ UPS ☐ Fed EX ☐ USPS

Optional

Proj. Name: \_\_\_\_\_

Proj. Due Date: \_\_\_\_\_

☐ Courier ☐ Client ☒ Other

Tracking Number: \_\_\_\_\_

Custody Seal on Cooler/Box Present? ☐ Yes ☐ No Seals intact? ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other \_\_\_\_\_

Temp Blank ☐ Yes ☐ No Type of Ice ☒ wet ☐ Blue

Thermometer used \_\_\_\_\_ Cooler temperature C \_\_\_\_\_

Initials and date of Person Examining Contents: KD 5-17-19

|   |   |  |                              | Comments |
|---|---|--|------------------------------|----------|
| Chain of Custody Present *  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 1        |
| Chain of Custody filled out?                                      | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 2        |
| Chain of Custody Relinquished?                                    | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 3        |
| Sampler Name and/or Signature on COC?                             | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 4        |
| Samples Arrived within hold time?                                 | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 5        |
| Short hold time Analysis (<72hr)?                                 | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 6        |
| Rush turn around Requested?                                       | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 7        |
| Sufficient Volume?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 8        |
| Correct Containers Used?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 9        |
| Soiltest Containers Used?   | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | <input type="checkbox"/> N/A | 10       |
| Containers Intact?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 11       |
| Filtered Volume Received for Dissolved Tests?                     | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 12       |
| Sample Labels Match COC?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 13       |
| Includes Date/Time/Di/Analysis Mark:                              |   |  |                              |          |
| All containers needing acid/base preservation have been checked?  | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A |          |
| Noncompliances are noted in 13.                                   |   |  |                              |          |
| All containers needing preservation are found to be in compliance | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A |          |
| EPA recommendation? (HNO3, H2SO4, HCL <2, NaOH >12)               |   |  |                              |          |
| Exceptions: VOA, Coliform, TOC, Oil & Grease                      | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A |          |
| Headspace in VOA vials (>6mm)                                     | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 14       |
| Trip Blank Present?   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A |          |
| Trip Blank Custody Seals Present?                                 | <input type="checkbox"/> Yes            | <input type="checkbox"/> No            | <input type="checkbox"/> N/A | 15       |

Client Notification/Resolution

Field Data Required? ☐ Yes ☐ No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/Resolution:

Received 5-17-19 upon driver and filed  
5-17-19

Project Manager Review:

Date:

7-8-19



JUN - 4 2019

## Sample Condition Upon Receipt

Client: Anchor GEACourier: ☐ UPS ☒ Fed EX ☐ USPS  
☐ Courier ☐ Client ☐ OtherProject #: S 8354 - 8358  
Optional M 19 - 01446  
Proj. Name: \_\_\_\_\_  
Proj. Due Date: \_\_\_\_\_

Tracking Number: \_\_\_\_\_

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals intact? ☐ Yes ☐ NoPacking Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other \_\_\_\_\_Temp Blank ☐ Yes ☐ No Type of Ice ☐ wet ☐ BlueThermometer used 7713700 Cooler temperature C 6°Initials and date of Person Examining Contents: rg 6-4-19

|   |   |                             |                              |    | Comments |
|---|---|-----------------------------|------------------------------|----|----------|
| Chain of Custody Present?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 1  |          |
| Chain of Custody filled out?                                      | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 2  |          |
| Chain of Custody Relinquished?                                    | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 3  |          |
| Sampler Name and/or Signature on COC?                             | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 4  |          |
| Samples Arrived within hold time?                                 | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 5  |          |
| Short hold time Analysis (<72hrs)?                                | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 6  |          |
| Rush turn around Requested?                                       | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 7  |          |
| Sufficient Volume?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 8  |          |
| Correct Containers Used?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 9  |          |
| Soiltest Containers Used?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 10 |          |
| Containers Intact?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 11 |          |
| Filtered Volume Received for Dissolved Tests?                     | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 12 |          |
| Sample Labels Match COC?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 13 |          |
| Includes Date/Time/ID/Analysis Matrix:                            | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 14 |          |
| All containers needing acid/base preservation have been checked?  | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 15 |          |
| Noncompliances are noted in 13.                                   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 16 |          |
| All containers needing preservation are found to be in compliance | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 17 |          |
| EPA recommendation? (HNO3, H2SO4, HCL <2 NaOH+12)                 | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 18 |          |
| Exceptions: VOA, Coliform, TOC, Oil & Grease                      | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 19 |          |
| Headspace in VOA vials (>6mm)                                     | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 20 |          |
| Temp Blank Present?   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 21 |          |
| Temp Blank Custody Seals Present?                                 | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 22 |          |

Client Notification/Resolution

Person Contacted: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Field Data Required? ☐ Yes ☐ No

Comments/Resolution: \_\_\_\_\_

Received 6-4-19 all samples put in dryer and dried

Project Manager Review: \_\_\_\_\_

Date: 6-7-19



JUN 12 2019

## Sample Condition Upon Receipt

Client: Anchor QEAProject #: 519-9160-9164  
Optional 519-9849-9858  
Proj. Name: \_\_\_\_\_  
Proj. Due Date: \_\_\_\_\_Courier: ☐ UPS ☒ Fed EX ☐ USPS  
☐ Courier ☐ Client ☐ Other \_\_\_\_\_

Tracking Number: \_\_\_\_\_

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals intact? ☐ Yes ☐ NoPacking Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other \_\_\_\_\_Temp Blank ☐ Yes ☐ No Type of Ice ☒ wet ☐ BlueThermometer used 7713700 Cooler temperature C 8°Initials and date of Person Examining Contents: rs 6-12-19

|   |   |                             |                              | Comments |
|---|---|-----------------------------|------------------------------|----------|
| Chain of Custody Present?   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 1        |
| Chain of Custody filled out?                                      | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 2        |
| Chain of Custody Relinquished?                                    | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 3        |
| Sampler Name and/or Signature on COC?                             | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 4        |
| Samples Arrived within hold time?                                 | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 5        |
| Short hold time Analysis (<72hrs)?                                | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 6        |
| Rush turn around Requested?                                       | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 7        |
| Sufficient Volume?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 8        |
| Correct Containers Used?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 9        |
| Soiltest Containers Used?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 10       |
| Containers Intact?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 11       |
| Filtered Volume Received for Dissolved Tests?                     | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 12       |
| Sample Labels Match COC?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 13       |
| Includes Date/Time/ID/Analysis Matrix:                            |   |                             |                              |          |
| All containers needing acid/base preservation have been checked?  | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A |          |
| Noncompliance are noted in 13.                                    |   |                             |                              |          |
| All containers needing preservation are found to be in compliance | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 14       |
| EPA recommendation? (HNO3, H2SO4, HCL < 2, NaOH > 12)             | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A |          |
| Exceptions: VOA, Coliform, TDC, Oil & Grease                      |   |                             |                              |          |
| Headspace in VOA vials (>6mm)                                     | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A | 15       |
| Trip Blank Present?   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A |          |
| Trip Blank Custody Seals Present?                                 | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input type="checkbox"/> N/A |          |

Client Notification/Resolution

Person Contacted: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Field Data Required? ☐ Yes ☐ No

Comments/Resolution: \_\_\_\_\_

all samples received on 6-12-19. PAT in  
dryer same day

Project Manager Review: \_\_\_\_\_

Date: 6-20-19

## Appendix B

### Project Photographs

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**Photograph B-1**  
**Lagoon No. 8**





**Photograph B-2**  
**Lagoon No. 9**



**Photograph B-3**  
**Lagoon No. 19**



**Photograph B-4**  
**Lagoon No. 20**

